

Abstract

[0071] The present invention generally relates to an end effector that utilizes a gripping mechanism to grip a peripheral edge of the wafer and secure the wafer to the end effector. In one embodiment, the gripping mechanism includes a pair of gripper arms that pivot between a wafer-loading position and a wafer-engaging position. In another embodiment, an active plunger moves linearly between the wafer-loading and wafer-engaging positions. Both the gripper arms and the plunger device are driven by a motor assembly. A force feedback system monitors the force the gripping mechanism exerts on the wafer and, based on the amount of force, controls the operation of the motor assembly to dynamically adjust the position of the gripping mechanism.

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